dollar terms. Part of the problem is the difference between an *individual* life and a *statistical* life; dialysis saves an individual life, but better traffic signals or safer cars save *statistical* lives (we never know whose life is saved, but we know that on average we saved X lives/year with better traffic signals). Often, when discussing the cost-effectiveness of medical interventions, we use *quality adjusted life years* which measures both the number of years as well as the quality of those years. For example, one study estimated that the quality of life for patients with CKD Stages 2-4 was about 95% of people without CKD (meaning only a modest decrease), but the quality of life for Stage 5 patients was 70% of people without CKD.[2] For context in the following discussion, over a host of medical treatments, those interventions that cost more than $100,000 per quality adjusted life year (QALY) are generally considered not cost-effective,[6] while those that cost less than $50,000 are considered "good bargains," although there is controversy about whether these values are too low.[7]

Costs of CKD and ESKD

The costs associated with CKD and ESKD are largely borne by different payers. People in the non-kidney failure stages of CKD (Stages 1-4) generally have the same insurance coverage as the general population. These individuals may have employer-based coverage, private non-group coverage, public coverage (eg, Medicaid, Medicare, or Veterans), or they may be uninsured. There is no special insurance coverage until a person needs kidney replacement therapy (either dialysis or transplant). Most people who need kidney replacement therapy will qualify for Medicare coverage. In most instances, Medicare coverage begins in the fourth month following initiation of dialysis (however, there are certain instances involving home dialysis or transplantation when coverage can begin earlier). Once Medicare coverage begins, there are special rules for people who have insurance coverage under an employer- or union-based health plan. Employer- or union-based coverage is the primary payer of health bills for the first 30 months (Medicare is the secondary payer and will pay the bills not covered by the employer- or union-based plan). After 30 months, Medicare becomes the primary payer, and the other insurance coverage becomes the secondary payer. Medicare coverage continues for as long as the person receives dialysis or for 36 months following transplantation.[b]

The costs associated with end-stage kidney disease (ESKD) are considerable, although costs vary widely by dialysis modality. One meta-analysis found that the cost per life year saved varies from roughly $55,000-$80,000 per life year for in-center hemodialysis, $33,000-$50,000 for home hemodialysis, and approached $10,000 per life year for transplantation.[8] As noted more fully in

b Centers for Medicare and Medicaid Services. Medicare Coverage of Kidney Dialysis and Kidney Transplant Services. CMS Publication No. 10128. September 2007. http://www.medicare.gov/Publications/Pubs/pdf/10128.pdf.